

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 2-10 are pending in the application, with claims 2, 5, 7, 8, 9, and 10 being the independent claims.

Based on the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luz et al. (U.S. Patent 6,321, 073) in view of Nielsen (U.S. Patent 6,985,518). Applicants have carefully considered the Examiner's comments, but, for the reasons set forth herein, respectfully traverse.

Independent claim 2 recites, among other features, a "delay measurement means coupled to the demodulator operable to determine a delay vector characterizing the in-phase and quadrature phase DC components".

In the rejection of claim 2, the Examiner concedes that Luz does not teach this feature of claim 2 but refers to Nielsen (FIG. 2 and col. 4, lines 7-45) as allegedly teaching this feature.

Nielsen is directed to an adaptive generalized matched filter rake receiver. The delay vector \vec{d} discussed in Nielsen refers to a vector of delay values, where each delay value denotes a propagation delay associated with one of several propagation paths of a transmitted signal (Nielsen, col. 3, lines 25-63) due to multipath propagation.

Accordingly, the delay vector \vec{d} of Nielsen is substantially different and of no relevance to the delay vector recited in claim 2, which characterizes in-phase and quadrature phase DC components. Nielsen, therefore, does not teach or suggest the above recited feature of claim 2.

For at least the reason provided above, Luz and Nielsen, alone or in combination, do not teach or suggest each and every feature of claim 2. Claim 2 is therefore patentable over Luz and Nielsen. Reconsideration and withdrawal of the rejection of claim 2 is respectfully requested.

Claims 3 and 4 depend from claim 2. For at least the reasons provided above with respect to claim 2, claims 3 and 4 are patentable over Luz and Nielsen. Reconsideration and withdrawal of the rejection of claims 3 and 4 is respectfully requested.

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luz et al. (U.S. Patent 6,321,073) in view of Nielsen (U.S. Patent 6,985,518) and Galal et al. (U.S. Patent 6,161,004). Applicants have carefully considered the Examiner's comments, but, for the reasons set forth herein, respectfully traverse.

Independent claim 5 recites a similar "delay measurement means" feature as recited in claim 2. Claim 2 has been distinguished over Luz and Nielsen with respect to at least this feature above. Galal adds nothing to overcome the deficiencies of Luz and Nielsen as described above. Accordingly, claim 5 is patentable over Luz, Nielsen, and Galal. Reconsideration and withdrawal of the rejection of claim 5 is respectfully requested.

Claim 6 depends from claim 5. For at least the reasons provided above with respect to claim 5, claim 6 is patentable over Luz, Nielsen, and Galal. Reconsideration and withdrawal of the rejection of claim 6 is respectfully requested.

Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zarubinsky et al. (U.S. Patent Application 2002/0114413) in view of Nielsen (U.S. Patent 6,985,518) and Galal et al. (U.S. Patent 6,161,004). Applicants have carefully considered the Examiner's comments, but, for the reasons set forth herein, respectfully traverse.

Independent claim 8 recites, among other features, "determining a signal delay between an output of a second mixer stage of the dual mixer stage radio receiver, said signal delay characterizing in-phase and quadrature phase components of the DC offset voltage present at the input of the low noise amplifier" and "using the determined signal delay to separate and define digital representations of the in-phase DC offset voltage and the quadrature phase DC offset voltage component".

In the rejection of claim 8, the Examiner refers to Zarubinsky (page 5, col. 1, paragraph [0077]; and page 5, col. 2, paragraphs [0094]-[0095]) as allegedly teaching the above recited features of claim 8.

Zarubinsky (page 5, col. 1, paragraph [0077]) is directed to the operation of a gain controller and does not teach or suggest "determining a signal delay" that characterizes in-phase and quadrature phase components of a DC offset as recited in claim 8. Further, Zarubinsky (page 5, col. 2, paragraphs [0094]-[0095]) is directed to the operation of an offset compensation loop and does not teach or suggest "using the

determined signal delay to separate and define digital representation of the in-phase DC offset voltage and the quadrature phase DC offset voltage component" as recited in claim 8.

Further, in the course of the rejection of claim 2, the Examiner concedes that Zarubinsky does not teach that "the determination of the delay has component delay vectors" but states that Nielsen discloses this. Applicants note that claim 8 does not include such feature as stated by the Examiner, but, nonetheless, point out that a feature of claim 2, similar to the delay determination feature of claim 8 recited above, has been distinguished over Nielsen with respect to claim 2 above.

Accordingly, Zarubinsky and Nielsen fail to teach or suggest at least the above recited features of claim 8. Galal also fails to teach or suggest at least the above recited features of claim 8. Claim 8 is therefore patentable over Zarubinsky, Nielsen, and Galal. Reconsideration and withdrawal of the rejection of claim 8 is respectfully requested.

Independent claim 10 recites, among other features, "determining a signal delay vector between the inputs of the low pass filters, said signal delay vector characterizing in-phase and quadrature phase components of the DC offset voltages at the inputs of the low pass filters" and "using the signal delay vector to separate and define digital in-phase and quadrature phase multiplication factors associated with the in-phase and quadrature phase DC offsets".

In the rejection of claim 10, the Examiner refers to Zarubinsky (page 5, col. 1, paragraph [0077]; and page 5, col. 2, paragraphs [0094]-[0095]) as allegedly teaching the above recited features of claim 10.

Zarubinsky (page 5, col. 1, paragraph [0077]) is directed to the operation of a gain controller and does not teach or suggest "determining a signal delay vector" that characterizes in-phase and quadrature phase components of DC offset voltages as recited in claim 10. Further, Zarubinsky (page 5, col. 2, paragraphs [0094]-[0095]) is directed to the operation of an offset compensation loop and does not teach or suggest "using the signal delay vector to separate and define digital in-phase and quadrature phase multiplication factors associated with the in-phase and quadrature phase DC offsets " as recited in claim 10.

Accordingly, Zarubinsky does not teach or suggest at least the above recited features of independent claim 10. Nielsen and Galal also fail to teach or suggest at least these features of claim 10. Claim 10 is therefore patentable over Zarubinsky, Nielsen, and Galal. Reconsideration and withdrawal of the rejection of claim 10 is respectfully requested.

Other Matters

In the current Office Action, independent claim 9 is neither rejected nor allowed by the Examiner. In the Appeal Brief filed on 2/24/2006, Applicants distinguished claim 9 over Zarubinsky with respect to at least one feature of claim 9 including "setting the gain of an automatic gain control to a gain value at which the signal levels of the in-phase and quadrature phase components are less than or equal to the maximum threshold voltage" and "comparing the signal levels of the in-phase and quadrature phase components to a predetermined minimum threshold value". Neither Nielsen nor Galal

teach or suggest the above recited features of claim 9. Accordingly, claim 9 is patentable over Zarubinsky, Nielsen, and Galal, and therefore should be allowed.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Robert Sokohl
Attorney for Applicants
Registration No. 36,013

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1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600

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